

**REMARKS**

Claim 1 has been amended basically back to its form as set forth in the Amendment filed July 29, 2009, except that the cleansing recitation has been moved from the preamble of the claim to the body of the claim to further clarify the requirement that the cosmetic composition of the present invention is for use in cleansing.

Entry of the above amendment is respectfully requested.

**Interview with Examiner**

Preliminarily, Applicants thank the Examiner for the telephone interview conducted on December 16, 2010. Applicants believe that the interview was helpful to advance the prosecution of this application. As a statement of the substance of the interview, it is noted that with respect to the Declaration evidence, the Examiner indicated that photographic evidence could be effective if it is presented in a Rule 132 Declaration. Also, the Examiner indicated that an explanation should be provided as to the practical significance of the difference shown in that photographic evidence supported by technical literature showing that the difference is recognized by the art as being of practical significance.

**Obviousness Rejections**

Claims 1-15 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yoneda (WO99/62482) in view of Noda (JP07-304630). Also, claims 1-15 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sakai (JP2000-136114) in view of Yoneda. In addition, claims 1-6, 8, 10, 12 and 14 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ito (JP09-165320) in view of Yoneda.

Applicants respectfully submit that the present invention is not obvious over the cited art, and request that the Examiner reconsider and withdraw these rejection in view of the following remarks.

(1) Initially, Applicants respectfully submit that the present invention is not obvious because it provides unexpectedly superior results.

In particular, Applicant respectfully submit that the cleansing cosmetic of the present invention achieves the unexpectedly superior results of improved washability and preservation stability of the cosmetics, as demonstrated in the previously submitted Rule 132 Declaration. In this regard, Applicants submit that the superior effects of the present invention are obtained by limiting the content of the lipopeptide compounds within the range of 0.1 to 5 mass% and could not have been expected from the teachings of Yoneda.

Regarding the Examiner's assertion that "observation" does not provide an objective means of demonstrating stability, Applicant submit that the separation of Yoneda's product, based on changes observed, implies and establishes poor preservation stability for a person having ordinary skill in the art. Further, Applicants submit that this observation should be accepted since it has been presented in a Rule 132 Declaration. Nevertheless, as discussed further below, Applicants submit herewith a copy of an executed Rule 132 Declaration with photographic evidence showing the degree of separation.

Regarding the Examiner's statement that the rejection over Yoneda and Noda is premised on modifying the formulation of Yoneda with Noda, and the Declaration does not clearly establish that one would have also expected a separation when Noda's teachings were applied to Yoneda, Applicant again direct the Examiner's attention to Section III of MPEP 716.02(e) which

states that Applicants are not required to compare the claimed invention with subject matter that does not exist in the prior art. Further, it is noted that Noda is silent about the stability effect (preventing separation) in regard to polyoxyethylene glyceryl fatty acid ester and thus one would not have had any reason to expect that effect when polyoxyethylene glyceryl fatty acid ester was added to Yoneda.

(2) Applicants submit that the results of the Example of Noda show that Sample 1 using polyoxyethylene (20) glyceryl triisostearate alone tended to lack skin comfort. Further, Yoneda does not teach that use of lipopeptide compounds enables one to improve washability. Accordingly, Applicants submit that the cosmetic composition of the present invention has a superior effect of excellent washability which is unexpected from the prior art. Moreover, neither Noda nor Yoneda discloses or suggests excellent storage stability of the cosmetic composition of the present invention, which is also an expected effect compared to the cited prior art.

Also, Applicants submit that Sakai and Ito do not disclose or suggest the superior effects of the present invention either, particularly regarding the excellent storage stability.

Hence, Applicants submit that the cosmetic composition of the present invention having excellent storage stability would not have been arrived at even by combining teachings of Noda and Yoneda in the invention of Sakai and Ito.

(3) Both of the cosmetic composition containing as little as 0.05 mass% of sodium surfactin in Comparative Example 3 and the cosmetic composition containing 10 mass% of sodium surfactin in Comparative Example 4 of the present invention showed change in

appearance in the storage stability test. That is, the range of from 0.1 to 5 mass% of the lipopeptide compounds is a critical factor in achieving the objective of the present invention.

Though Yoneda discloses use of a lipopeptide compound, it discloses an external preparation for skin comprising a surfactant such as a lipopeptide compound in a content of 0.01 to 30 wt% to attain the effect of reducing irritation to the skin, and thus Yoneda neither discloses nor suggests the particular content range as claimed in the present invention. The effects of the present invention obtained by limiting the content of the lipopeptide compounds within the range of 0.1 to 5 mass% would not have been expected from the teachings of Yoneda. Therefore, Applicants submit that the present invention is not obvious from the teachings of Yoneda and other prior art.

(4) In addition, Applicants submit herewith a copy of Guidelines on Stability Testing of Cosmetics Colipa/CTFA, 2004 (<http://www.packagingconsultancy.com/pdf/cosmeticscolipa-testing-guidelines.pdf>) showing why separation is considered a negative characteristic in the field of cosmetics.

The Guidelines document states at page 4 that stability testing needs to involve the assessment of the following criteria: color, odor and appearance, and changes in the container. This shows that the change in appearance has significance in the art. Generally, storage stability of three years or more is required for cosmetics.

Thus, the Guidelines document shows the significance recognized in the art in regard to obtaining unexpectedly superior results like those provided by the present invention as demonstrated in the experimental evidence of record and submitted herewith.

(5) As noted above, Applicants submit herewith a Rule 132 Declaration with photographic evidence further demonstrating the unexpected superiority of the present invention.

In particular, the experiment in the Declaration filed July 31, 2009 was reproduced and a photograph showing the results was taken. The photograph shows the state after a lapse of one week at 50°C from the preparation of the composition.

As is clear from the results shown in the photograph, virtually no change was observed in the composition according to the preparation of Example 1 of the present invention after a lapse of one week at 50°C from the preparation compared to the composition immediately after the preparation. On the other hand, the composition of the Comparative Example corresponding to Yoneda separated into two layers immediately after preparation of the composition.

Thus, the Declarant concludes that the present invention provides unexpectedly superior results.

In view of the above, Applicants submit that the present invention provides unexpectedly superior results. In this regard, Applicants note that photographic evidence has been presented in the Rule 132 Declaration submitted herewith, and an explanation as to the practical significance of the difference shown in that photographic evidence (particularly, the practical significance of separation, which is considered a negative characteristic in the field of cosmetics) has been given supported by technical literature showing that the difference is recognized by the art as being of practical significance.

(6) Finally, with respect to the rejection over Ito in view of Yoneda in particular, Applicants submit herewith a partial English translation of Ito. While the Examiner has stated that Ito teaches a cleansing cosmetic formulation in the form of a hair rinse agent composition

which has a high rinsing effect and is excellent in feel, Applicants submit that the hair conditioner composition of Ito does not have a high rinsing effect. Instead, as can be seen from the partial translation submitted herewith, the hair conditioner composition of Ito is used to replenish oil content to hair and make hair supple after washing. Thus, Ito is completely different from a cleansing cosmetic. In this regard, Applicants note that claim 1 has been amended to include a cleansing recitation in the body of the claim, so the cleansing recitation should be given patentable weight. Further, neither Yoneda nor Ito discloses or suggests using polyoxyethylene glyceryl fatty acid ester. Therefore, the present invention is not rendered obvious based on Yoneda and Ito, whether taken alone or in combination.

Thus, Applicants submit that the present invention is not obvious over the cited art, and withdrawal of these rejections is respectfully requested.

### **Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111  
Appln. No.: 10/568,944

Attorney Docket No.: Q77281

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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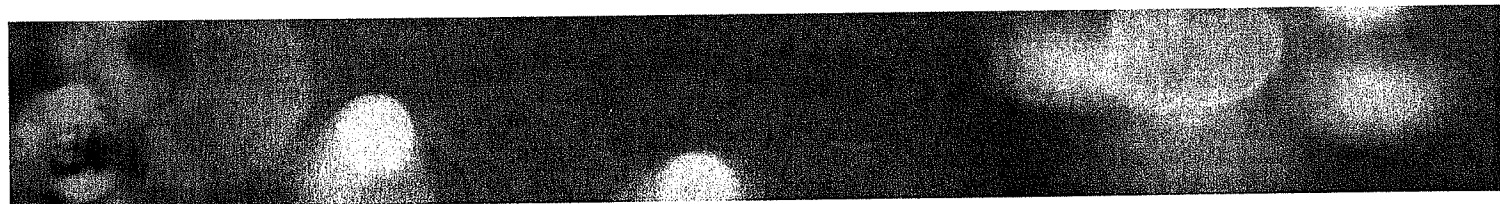
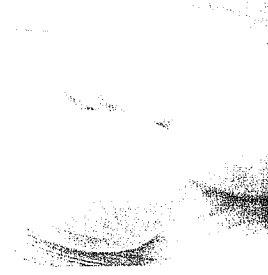
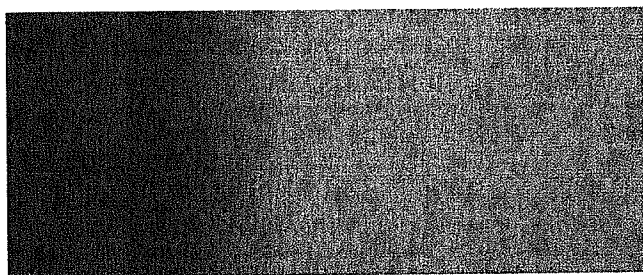
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Date: February 28, 2011

## GUIDELINES ON STABILITY TESTING OF COSMETIC PRODUCTS

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March 2004







# **GUIDELINES ON STABILITY TESTING OF COSMETIC PRODUCTS March 2004**

## **I. GENERAL CONSIDERATIONS**

### **1. INTRODUCTION**

#### **General**

The purpose of stability testing cosmetic products is to ensure that a new or modified product meets the intended physical, chemical and microbiological quality standards as well as functionality and aesthetics when stored under appropriate conditions.

Because the development cycle of cosmetic products is relatively short, and also, in order that the testing activity does not become economically disproportionate in view of the multitude of product launches each year, each manufacturer must have at their disposal tests that are adapted to their activity. Each manufacturer should design their stability testing program such that it is reasonable and efficiently addresses the testing required.

This document aims to set out guidelines in order to predict and assure the stability of products in the market place. Its purpose is to aid manufacturers of cosmetic products in the selection and the refinement of the appropriate stability tests. Although this guideline can provide a helpful starting point, it is important that manufacturers carefully evaluate new products and technologies and, where appropriate, adapt their testing to reflect differences between product types and formulations.

However, all methods assuring the final stability of a cosmetic product against the categories cited in paragraph below, if it is at least equivalent to the recommendations of the following chapters, are considered as valid. Procedures must be put in place and documented within the manufacturer's internal system.

## **General Stability of a Cosmetic Product**

Whether conducted in real time or under accelerated conditions, tests should be done in order to assure:

- Stability and physical integrity of cosmetic products under appropriate conditions of storage, transport and use,
- Chemical stability,
- Microbiological stability,
- The compatibility between the contents and the container.

Moreover, concerning methodology, the manufacturer should, for each formula type, select the pertinent criteria according to their experience and evaluate these at one or more temperatures. The evolution of the test parameters should then be judged by the corresponding expert and a decision made for each criterion on the basis of the company's internal procedures and experience. An evaluation, based on all of the criteria should then allow for the predicted or real stability of the product to be deduced.

Because of the wide variety of cosmetic products and their inherent complexity, "standard" stability tests cannot be prescribed. Manufacturers, who have an intimate knowledge of their products and packages, require the flexibility to modify testing protocols and to build a sound scientific basis for assessing product stability. Thus, specific tests may be developed in order to predict possible evolutions of the product, to address new/unusual technologies, or to be adapted to products having extended shelf lives.

## **Accelerated Stability Tests**

Accelerated tests, developed because of the relatively short development cycle for cosmetic products, enable the prediction of stability. A commonly accepted practice is to support the forecasts obtained from accelerated stability testing by carrying out periodic post-launch monitoring of retained samples stored at ambient temperatures. The resultant information can also be useful in further improving the product and in refining the methodology used for accelerated stability testing.

## **2. DESIGNING A COSMETIC STABILITY STUDY**

A stability study should include the following considerations (each of which will be discussed in more detail later):

- Identify tests that will "accelerate and predict" the effects of normal conditions of storage and use. Where relevant, consider stresses, including temperature, that will enable assessment of product integrity under anticipated product exposure conditions.
- Consider evaluation of critical aesthetic properties such as color, fragrance, texture, and flow, particularly after exposure to conditions designed to stress each specific property.
- Consider variation in process conditions.

- Consider the impact of packaging on the contained product, as well as any effects which the product might have on the packaging.

### **3. PREDICTING SHELF LIFE**

There is very little generally-applicable published research to support specific accelerated methods for predicting cosmetic shelf life. Some of the reasons for this lack of information are:

- The variety and complexity of cosmetic formulas and packaging.
- The proprietary nature of many products and stability test methods.
- The variety of types of changes that need to be examined, including physical, chemical, microbial, functional or aesthetic changes.

#### **“Accelerated” Conditions**

Accelerated test conditions are internationally recognized as appropriately predicting product shelf life in many industries.

Appropriate conditions, for example with regard to temperature and/or duration, should be chosen according to the product category and the in-house know-how and should be based on sound scientific judgment. Data acquired using various techniques at different temperatures and durations can be used, possibly in conjunction with the use of mathematical models, to predict stability.

Tests are often performed at 37°C, 40°C or 45°C during 1, 2, 3... months but the temperature used and the duration will depend on the product type. For instance, for certain product categories other temperatures may prove to be more useful.

Based on the accelerated stability results and on its scientific experience, a company may then be able to predict the actual stability for given market conditions.

#### **Scale-Up Stability Testing**

In the early stages of product development, initial determinations of product stability can be made by testing samples from laboratory batches under appropriate conditions. As development progresses, it may be necessary to make more precise determinations of probable stability by testing samples from batches manufactured with equipment representative of that which will be used to manufacture the commercial product. Factors such as equipment type and configuration, process, batch size and product type need to be considered when developing a stability program.

#### **Shade and Fragrance Variations**

It is advisable that stability tests include a representative range of shades and/or fragrances which are judged to represent the stability extremes of the product. If any of these extremes yield results which are unsatisfactory or questionable, additional shades or fragrances should be tested.

In certain circumstances, it may be advisable to test all fragrance variations, because

fragrances are more likely to interact with the product than are color shades. Also, some cosmetics come in so many shade variations that testing all shades would not be practical.

### **Packaging**

Packaging can directly affect finished product stability because of interactions which can occur between the product, the package, and the external environment. Such interactions may include:

- Interactions between the product and the container (e.g. adsorption of product constituents into the container, corrosion, chemical reactions, migration);
- Barrier properties of the container (its effectiveness in protecting the contents from the adverse effects of atmospheric oxygen and/or water vapor, and in ensuring the retention of water and other volatile product constituents).

Stability testing should include packaging which is made of exactly the same material(s) and is as similar as possible in all other respects to the package in which the product will be marketed. If the product will be marketed in several different package types, it is advisable to study each package type. Where there is a range of package sizes, it is advisable to test the product in the smallest container. Appropriate controls (for example, product in glass containers) should be used. It may also be advisable to test the packaged product in various orientations (upright, inverted, on its side, etc.)

### **Parameter Variability during Product Shelf Life**

When designing a stability test protocol, it is important to bear in mind that as products age, their properties may change. Because of this fact, stability testing may need to involve testing of properties beyond those which will be evaluated for initial release testing. The assessment of the following criteria is given as an example and is neither exhaustive nor a minimum requirement as the tests will depend on the product category and the packaging type:

- Color, odor and appearance,
- Changes in the container,
- pH,
- Viscosity,
- Weight changes
- Microbial tests demonstrating the ability of the products to prohibit microbial growth during normal use and other specific tests if necessary,
- Analytical data in relation to other parameters for specific product types

### **Confirmatory Monitoring**

As a general rule, it is advisable to employ confirmatory ("real-time") monitoring to gain additional assurance that the accelerated testing is truly predictive of market stability. Such monitoring should be carried out on the actual production product in the final package. Testing can be very simple (for example periodic visual monitoring of production retains stored at ambient temperature), or it can be more complex (conducting stability studies of production retains under controlled temperature

conditions which parallel those used in the accelerated testing). Manufacturers may consider supplementing the information gained with such data as trade surveys and consumer feedback.

#### **4. PREDICTING FUNCTIONALITY UNDER STRESS CONDITIONS**

This section describes approaches to predicting how well cosmetics will resist common stresses such as temperature extremes and light. Typically, manufacturers determine whether to perform such specialized testing based on the vulnerabilities of the particular cosmetic product and its anticipated shipping, storage, display and use conditions.

##### **Temperature Variations and Extremes**

Temperature cycling and/or “freeze-thaw” tests can reveal some types of inadequacies more quickly than can storage at a constant temperature. Freeze-thaw testing should be considered for certain types of products.

Examples of problems which can be detected by freeze-thaw testing include suspension problems (a tendency to crystallize or cloud), instability of emulsions and creams, package design issues (such as wrinkling or loss of labels, cracking or distortion), corrosion of internal lacquers in aluminum tubes, etc

As products can be expected to encounter temperature and pressure extremes during transport and storage, stability testing at these extremes should be considered, for example :

- Low-temperature testing, as well as freeze-thaw testing.
- High-temperature testing.

##### **Mechanical and Physical Tests**

Mechanical shock testing is often conducted in order to determine whether or not shipping movements may damage the cosmetic and/or its packaging. Vibration testing can help to determine for example whether de-mixing (separation) of powders or granular products is likely to occur.

##### **Light Stability**

Cosmetics whose packaging may allow the product to be exposed to light should undergo light stability testing. The lighting used in testing should simulate the intensity to which the cosmetic will likely be exposed.

## **II. DESIGNING A STABILITY STUDY: A PRACTICAL GUIDE**

### **General**

The following section outlines a logical approach to designing a stability study which highlights key considerations. In reality, however, it is most likely that companies will have already set up programs for each product category based on their own experience (which would nevertheless fit with these principles). This step by step reflection would therefore only be applied to totally novel products or by companies performing stability studies on a particular category of cosmetic products for the first time.

- Consider that throughout the design process the basic principle is to provide data that will assure that the product continues to fulfill its initial function and be of appropriate quality through the course of its intended usage.
- Consider the characteristics/specifications of the product and define clearly what will be considered as acceptable stability, as this may vary across the wide range of cosmetic products and will be dependent on each company's internal procedures and experience.
- Consider the points in the process where the appropriate level of confidence has been reached. The fast cycle time for cosmetic products means that while confirmatory studies are continued a well-designed study should use experience and scientific expertise to answer the key questions about product stability.
- Consider existing data on similar products with similar packaging. The study of past data may give indications as to what areas of product stability the new program should focus to increase the effectiveness and efficacy of the program.

### **Specific Considerations**

- Determine the parameters to be investigated in the study. These should be relevant to the product type, its specific formulation and package and should take into account any specific legislative requirements. Not all parameters may need to be investigated at every sampling stage if this is reasonable based on experience and scientific principle.
- Determine the relevant conditions under which the product could be stored. These should reflect the normal expected exposure of the product during its life cycle. In addition to testing product in the selected packaging, controls may be considered.

Throughout their life cycle, products may be exposed to a number of different conditions during their storage, transport, retail and finally use by the consumer. A stability program should reflect the most likely conditions that will be experienced and attempt to replicate them. Possible areas to be considered may be temperature, light, humidity or physical effects.

- Determine the packaging in which the product should be stored in order to simulate actual marketed products as closely as possible.
- Determine what characteristics and potential interactions of the product and package should be inspected and/or tested. Consideration of the formulation and the package type, size and material should lead to identification of possible areas of interaction that may need to be investigated.
- Determine the type of batch to be tested (e.g. laboratory, pilot, or production) so that the product may be representative of commercial production.
- Determine the range of product shades or fragrances that need to be included in the study. Where there are a large number of shades or fragrance variants it may be appropriate to run stability on a subsection of the total product line.
- Determine the frequency of product inspection/testing. It is important to work out what the appropriate frequency of product sampling and testing is throughout the stability program. Adequate amounts of product should be placed to meet these requirements with significant overprovision in case retesting is required.
- Determine the nature of any controls that should be included. The choice of products to place on stability to compare against, if required, should be based on the understanding of the stability of those controls and should be set up to investigate specific parameters.
- Ensure that plans are in place for the collation and storage of stability data and have a process for next steps based on this data.

\* \* \* \* \*

## REFERENCES

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- Scientific Committee on Cosmetic Products and Non-Food Products Intended for Consumers (SCCNFP) Notes of Guidance for the testing of cosmetic ingredients and their safety evaluation, 5<sup>th</sup> Revision, 20 October 2003.

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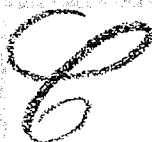
##### *Achieve effective public policy*

by actively contributing to the shaping of workable and fair policy frameworks regulating the industry. To this end, proactive and effective networking and communication are of the essence. Opportunities for achieving alignment on an international scale should be created and optimised.

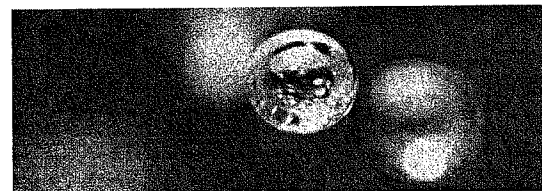
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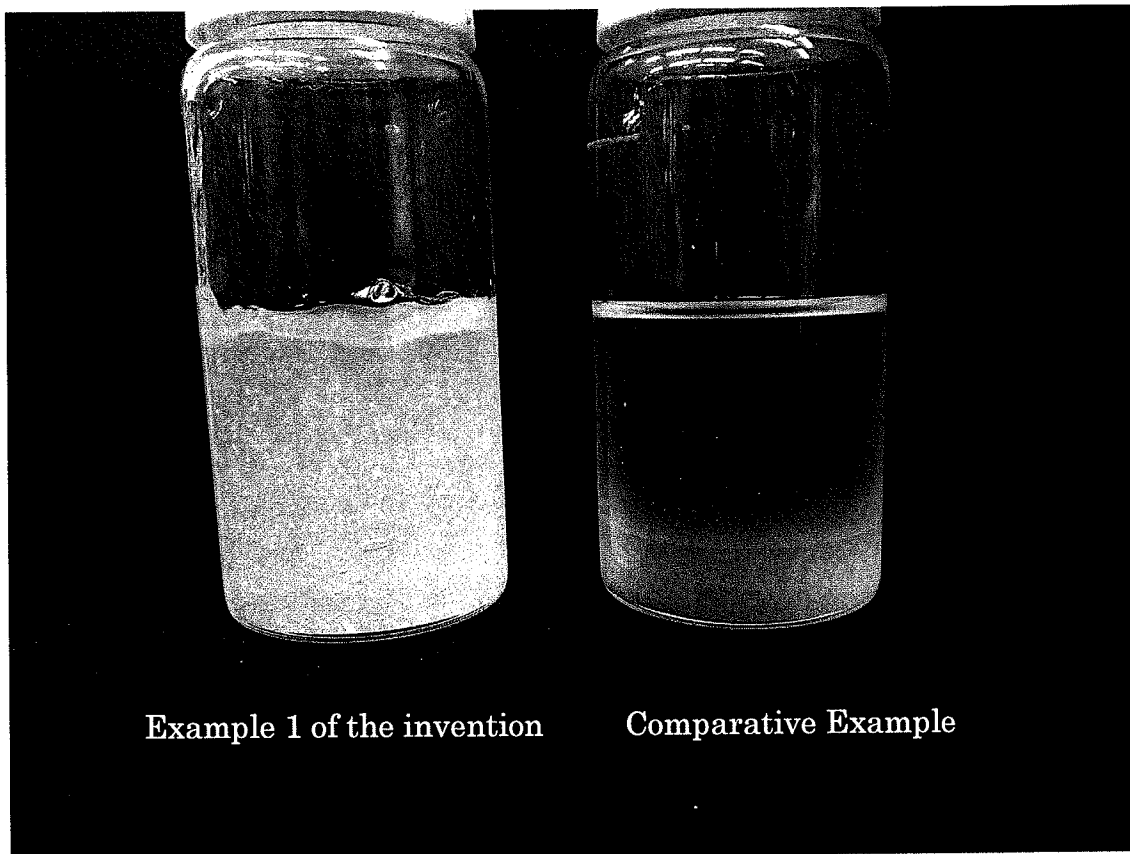
by addressing members' needs in an efficient and transparent way, through timely information and decision making processes and focusing on the issues and activities which are important to them.

Best use should be made of members' expertise and dedication to optimise both efficiency and one-voice positions.



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Example 1 of the invention

Comparative Example

(19) Japan Patent Office  
(JP)

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Patent Application(A)

(11) Patent Application  
Publication  
No. H09-165320

(43) Date of Publication  
of Application: June 24,  
1997

(51) Int.Cl.	Identification Symbol	Internal File FI No.	A61K 7/08
			Request for Examination: Unrequested Number of Inventions: 4 (Total: 7 pages)
(21) Application No. H07-329093	(71) Applicant: KAO CORPORATION		
(22) Filing Date: December 18, 1995	1-14-10 Nihonbashi Kayabacho, Chuo-ku, Tokyo		
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(54) Title of the Invention: HAIR CONDITIONING COMPOSITION

(57) Abstract:

SOLUTION: A hair conditioning composition comprising (A) an oily component, (B) a non-ionic surfactant, and (C) a cationic surfactant, and containing 15 % by weight of water or less.

EFFECT: The hair conditioning composition of the present invention can be uniformly applied to hair. Also, the hair conditioning composition of the present invention has high conditioning effect, and it is excellent in feeling to use and the durability of the effect.

[Claims]

[Claim 1] A hair conditioning composition comprising (A) an oily component, (B) a nonionic surfactant, and (C) a cationic surfactant,  
and containing 15 % by weight of water or less.

[Claim 2] The hair conditioning composition according to claim 1, wherein the component (A) is 20 to 60 % by weight, the component (B) is 20 to 70 % by weight, and the component (C) is 1 to 20 % by weight.

[Claim 3] The hair conditioning composition according to claim 1 or 2, wherein the component (A) is one selected from a liquid paraffin, a higher alcohol, and a silicone oil.

[Claim 4] The hair conditioning composition of any one of claims 1-3, wherein the component (B) is one selected from a glycerin monofatty acid ester, a glycerin difatty acid ester, and a polyoxyethylene sorbitan fatty acid ester.

#### [Detailed Description of the Invention]

[0001]

#### [Field of the Invention]

The present invention relates to a hair conditioning composition which can be uniformly applied to hair. The composition has high conditioning effect, and it is excellent in feeling to use and the durability of the effect.

[0002]

#### [Description of the Prior Art]

A hair conditioning composition generally contains a cationic surfactant, an oil, etc. The components are adsorbed to hair and give the effects, such as smoothness of the surface of hair, good combing, prevention of static electricity, and protection of the surface of hair. The hair conditioning composition is applied to hair after shampooing and then rinsing.

[0003]

However, since the conventional hair conditioning composition was directly applied to hair or was spreaded on hair, it was difficult to uniformly apply to the whole hair. In the case of

long hair, uniform application is more difficult and also there is a problem such as taking time and effort. When the hair conditioning composition without uniform application was rinsed, there was a problem that the effect was remarkably decreased.

[0004]

Moreover, when the hair conditioning composition was diluted in use, it was impossible for the hair conditioning composition to disperse uniformly. That is, oil floated or some components precipitated because of the properties of the hair conditioning composition.

[0005]

[Problem to be Solved by the Invention]

Therefore, the purpose of the present invention is to provide a hair conditioning composition which can be uniformly applied to hair, has high conditioning effect, and is excellent in feeling to use and the durability of the effect.

[0006]

[Means for Solving the Problem]

Under the above-mentioned situation, the inventors of the present invention made intensive investigations and found that a hair conditioning composition, which quickly disperses uniformly by self-emulsification when it is diluted by water and can be conveniently and uniformly applied to hair, has high conditioning effect, and is excellent in feeling to use and the durability of the effect, is obtained by combining an oily component, a nonionic surfactant, and a cationic surfactant, and the present invention was completed.

[0007]

That is, the present invention provides a hair conditioning composition comprising (A) an oily component, (B) a nonionic surfactant, and (C) a cationic surfactant, and containing 15 %

by weight of water or less.

[0008]

[Embodiment of the Invention]

As the oily component (A), an oily component for the conventional cosmetic etc. may be used without any restriction. For example, the following oily components may be used.

[0028]

In the hair conditioning composition of the present invention, the content of water is 15 % by weight or less in the total composition, preferably 0.1 to 5 % by weight, and especially preferably 0.01 to 10% by weight. If the content of water exceeds 15 % by weight, emulsification and precipitation of a component of the hair conditioning composition occur, and the dispersibility decreases.

[0029]

In the hair conditioning composition of the present invention, a component used for the conventional hair conditioning composition may be arbitrarily blended as long as the effect of the present invention is not spoiled. For example, medical reagents such as an anti-dandruff reagent, an antimicrobial reagent, and a vitamin, antiseptics such as paraben, colorants such as a dye and a pigment, pearly sheen agents such as a glycol ester, and various compound perfumes.

[0030]

The hair conditioning composition of the present invention is produced by the conventional process such as mixing and stirring each component.

[0031]

The hair conditioning composition of the present invention is diluted with hot water or water and applied to hair when used. The hair conditioning composition is preferably diluted to about 50 to 500 times, and especially preferably diluted to about 100 to 200 times. When the hair conditioning composition is added to hot water or water, the hair conditioning composition is uniformly dispersed in hot water or water by the oily component and the nonionic surfactant forming emulsions. And by adjusting the amount of each component or the like, the hair conditioning composition itself becomes transparent, and when it is added to hot water or water it becomes cloudy and the oily component is kept from floating in the surface of water.

[0032]

[Effect of the Invention]

In the hair conditioning composition of the present invention, the conditioning component may be included with high concentration, and the high conditioning effect is accomplished. As the hair conditioning composition is used by diluting with hot water or water, it can be conveniently and uniformly applied to hair. And the hair conditioning composition is excellent in feeling to use and the durability of the effect.

[0033]

[Examples]

The present invention is explained further by the following examples. However, the present invention is not limited to these examples.

[0034] Example 1

Hair conditioning compositions shown in Tables 1 and 2 were produced with the conventional method. The obtained hair conditioning compositions were evaluated in the dispersibility in water and the conditioning effect. The results are shown in

Tables 1 and 2.

[0035] (Evaluation method)

(1) Dispersibility in water: 5 ml of hair conditioning composition was added to 1L of water (200 time dilution), and the dispersion state after stirring lightly was evaluated by visual observation. "O" means the good dispersion state and "X" means the bad dispersion state.

[0036]

(2) Conditioning effect: A hair sample was dipped into the diluted hair conditioning composition prepared in (1), and was evaluated in the smoothness and the softness by sensory evaluation method when the hair conditioning composition was adapted to hair by hand and when the hair was pulled out of the liquid including the hair conditioning composition and was rinsed with running water. The evaluation was carried out according to the following standards.

OO(double circle); it is dramatically smooth and soft.

O; it is smooth and soft.

Δ(triangle); it is not much smooth and is not much soft.

X; it is not smooth and is not soft.



[0037]

[Table 1]

Component (% by weight)	Composition of the present invention					
	1	2	3	4	5	6
Lauryl trimethylammonium chloride	2.5	2.5				
Stearyl trimethylammonium chloride	1.5	1.5	2.5	4	2.5	2.5
Distearyl dimethylammonium chloride			1.5		1.5	1.5
Cetanol	10		10	10	10	10
Stearylalcohol		10				
Polyoxyethylene sorbitol tetraolate(HLB12)	10	12.5	10	10	10	8
Sorbitan monolaurate	2.5		2.5	2.5		2
Glycerin monocaprata	30	30	30	30	25	25
Glycerin dicaprata	10	10	10	10	15	15
Liquid paraffin	33.2	33.2	33.2	33.2	35.7	35.7
Silicone(KHS-3 made by Shin-Etsu Silicones)						
Amino modified silicone (BY16-837 made by Toray Dow Corning)						
Isopropyl palmitate						
Vaseline						
Propylene glycol						
Ethanol						
Perfume	0.15	0.15	0.15	0.15	0.15	0.15
Methylparaben	0.15	0.15	0.15	0.15	0.15	0.15
Purified water						
Dispersibility in water	00	0	00	00	0	00
Conditioning effect	00	00	00	00	00	00

[0038]

[Table 2]

Component (% by weight)	Composition of the present invention		Comparative Composition		
	7	8	1	2	3
Lauryl trimethylammonium chloride					
Stearyl trimethylammonium chloride	2.5	2.5	1.2	0.8	1.2
Distearyl dimethylammonium chloride	1.5	1.5		0.4	
Cetanol	10	10	3	3	2
Stearylalcohol					1
Polyoxyethylene sorbitol tetraolate (HLB12)	8	10			
Sorbitan monolaurate	2				
Glycerin monocaprata	20	20			
Glycerin dicaprata	15	10			
Liquid paraffin	33.7	30.7	0.5	0.5	0.5
Silicone(KHS-3 made by Shin-Etsu Silicones)			2	1.9	1.9
Amino modified silicone (BY16-837 made by Toray Dow Corning)		10		0.1	0.1
Isopropyl palmitate	5		0.5		
Vaseline	1			0.5	
Propylene glycol			2	2	3
Ethanol			2	2	
Perfume	0.15	0.15	0.15	0.15	0.15
Methylparaben	0.15	0.15	0.15	0.15	0.15
Purified water		5	88.5	88.5	89.5
Dispersibility in water	OO	O	X	X	X
Conditioning effect	OO	OO	Δ	Δ	Δ

[0039] Example 2

The following hair conditioning composition was produced with the conventional method.

[Table 3]

(Component)	(% by weight)
Distearyl dimethylammonium chloride	1.5
Lauryl trimethylammonium chloride	2.5
Cetanol	10
Polyoxyethylene sorbitol tetraolate (HLB12)	10
Sorbitan monolaurate	2.5

Glycerin monocaprates	40.0
Liquid paraffin	33.2
Perfume	0.15
Methyl parahydroxybenzoate	0.15

[0040]

5 ml of the hair conditioning composition of Table 3 was added to 1000 ml of hot water and hot water became uniformly cloudy. By putting the water to hair, the hair conditioning composition was uniformly applied to the whole hair. The composition had high conditioning effect, and was excellent in feeling to use and the durability of the effect.

[0041]Example 3

The following hair conditioning composition was produced with the conventional method.

[Table 4]

(Component)	(% by weight)
Distearyl dimethylammonium chloride	3
Cetanol	10
Polyoxyethylene sorbitol tetraolate (HLB12)	10
Glycerin monocaprates	30
Liquid paraffin	26.75
Amino modified silicone(BY16-837 made by Toray Dow Corning)	20
Methyl parahydroxybenzoate	0.1
Perfume	0.15

[0042]

5 ml of the hair conditioning composition of Table 4 was added to 1000 ml of hot water and hot water became uniformly cloudy. By putting the water to hair, the hair conditioning composition was uniformly applied to the whole hair. The composition had high conditioning effect, and was excellent in feeling to use, and the durability of the effect.